



September 2011

News from UC Davis Postharvest Technology Center

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Director's Update

Fall is here!



As fall-like weather begins to slowly take hold in California, we realize that 2011 will soon come to an end and look forward to 2012. We are currently planning for our 2012 lineup of courses and workshops and expect to open registrations soon. You may want to consider which of your employees could benefit from some postharvest training, or perhaps it's time for a refresher for yourself.

We are excited to announce that you can now purchase an electronic copy of our popular book, Postharvest Technology of Horticultural Crops, available in both English and Spanish. With an electronic version, you can easily carry it with you for quick reference wherever in the world you find yourself.

--[Elizabeth Mitcham](#)

Website Highlights

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Fact Sheets:
Maintaining
Postharvest
Quality

Postharvest Workshops @ UC Davis

Fresh-cut Products: Maintaining Quality & Safety Workshop a Success!

There was a heightened sense of camaraderie and interaction amongst the participants who attended the September 2011 workshop. The workshop, coordinated and facilitated by Dr. Marita Cantwell, was structured so that there were many

opportunities for sharing challenging fresh-cut situations, and brainstorming solutions. Because the content for this workshop is significantly updated each year, we find that participants often attend every few years. One commented, [this is] “my first time, I’ll be back next year—had a great time.” Other feedback included “Excellent course, time, themes, expositors, in general ... exceeded my expectations. Congratulations”, and “Overall I felt the course was valuable and was able to gain useful knowledge that will help better my company. The two important factors were the importance of temperature and that produce is not just a product but a living product”.

Preparing for 2012’s Workshops

Penny Stockdale, Pam Devine, and the rest of the staff at the Postharvest Technology Center have been hard at work preparing the various required components to allow us to begin to open registrations for our 2012 workshops, including the following:

- **March 27-28, 2012.** *Fruit Ripening & Ethylene Management Workshop*, coordinated by Dr. Carlos Crisosto
- **June 18-22, 2012.** *Postharvest Technology Short Course*, coordinated by Dr. Beth Mitcham
- **June 25-29, 2012.** *Postharvest Technology Short Course optional Field Tour*
- **September 18-20, 2012.** *Fresh-cut Products: Maintaining Quality & Safety Workshop*, coordinated by Dr. Marita Cantwell

We hope you’ll mark your calendars now for these upcoming workshops, and plan to attend.

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News from the Center

Cantwell Invited Presenter at Two Gatherings

Dr. Marita Cantwell was an invited speaker at both the **II International Conference on Quality Management of Fresh Cut Produce: Convenience Food for a Tasteful Life**, July 17-21, 2011 held in Torino, Italy. She was also an invited presenter at the **International Tomato Congress**, 27-29 July 2011, held in Querétaro, Mexico.

Postharvest Innovation workshop at University of Otago, Dunedin, New Zealand, August 23-25, 2011

Diane Barrett participated in an international workshop attended by university, industry and Plant and Food Research personnel held at the University of Otago. The workshop focused on integrating research and commercial activities currently carried out in New Zealand in the entire postharvest fruit and vegetable chain, including postharvest handling, storage and processing practices. U.S.-based researchers from 5 different universities presented examples of how these activities are integrated in their respective universities and states.

Central Valley Postharvest Newsletter

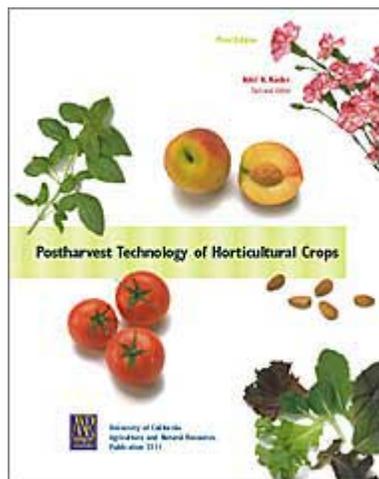
The 2nd issue of Volume 20 of the Central Valley Postharvest Newsletter, edited by Carlos Crisosto, is now available: <http://ucce.ucdavis.edu/files/datastore/234-2116.pdf>. Link [here](#) to see all 20 volumes.

American Society for Horticultural Sciences

Beth Mitcham attended the ASHS conference in Kona, Hawaii, September 25-29 and presented her a paper entitled, “Understanding the mechanisms of calcium deficiency disorders in fruit.

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Featured Postharvest Publication



Now Available for Digital Download

Need it quick? Traveling, and need it light? The famous **Postharvest Technology of Horticultural Crops**, and its Spanish translation **Tecnología Postcosecha de Cultivos Hortofrutícolas** are now available for download (click on the book titles above to purchase electronic version) via the University of California's Division of Agricultural and Natural Resources. The downloaded digital version is available for \$52/copy.

The printed version of Postharvest Technology of Horticultural Crops is also featured this month at the same price, \$52/copy (a 20% discount) until October 20. You can order the hardcopy on-line (US addresses only) using the [linked form](#), or using our printed [order form](#) (international addresses).

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What's New on Our Website

New Addition to Postharvest Publications Organized by Topic Library

This library currently contains more than 1,400 postharvest documents, organized by topic. It is searchable by title or author, and is one of the premiere sources of postharvest information.

Food Safety

- **Communicating Risks and Benefits: An Evidence-Based User's Guide**, Baruch Fischhoff, Noel T. Brewer, and Julie S. Downs, editors. US Dept. of Health and Human Services, Food and Drug Administration. 242 pgs. (2011)

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Postharvest Calendar: Upcoming Conferences, Courses and Workshops

- October 14-17, 2011. **Fresh Summit International Convention & Expo**, Atlanta, GA, USA; Produce Marketing Association.
- December 3-6, 2011. **International Conference on Quality Management in Supply Chains of Ornamentals**. Radisson Hotel, Bangkok, Thailand. Contact Sirichai Kanlayanarat (66)2-470-7720 or qmsco@kmutt.ac.th.
- December 3-6, 2011. **Southeast Asia Symposium on Quality Management in Postharvest Systems** (SEAsia2011). Bangkok, Thailand. Contact Sirichai Kanlayanarat (66)2-470-7720 or seasia@kmutt.ac.th
- December 3-6, 2011. **Asia Pacific Symposium on Postharvest Quality Management of Root and Tuber Crops**. Radisson Hotel, Bangkok, Thailand. Contact Sirichai Kanlayanarat (66)2-470-7720 or sirichai.kan@kmutt.ac.th.
- February 6-8, 2012. **5th European Short Course on Quality & Safety of Fresh-cut Produce**. Messe Berlin Exhibition Grounds, Berlin, Germany.
- March 27-28, 2012. **18th Annual Fruit Ripening & Ethylene Management Workshop**. UC Davis campus.
- June 18-29, 2012. **34th Annual Postharvest Technology Short Course**. UC Davis Campus, plus optional field tour.

- June 25-29, 2012. **7th International Postharvest Symposium**. Kuala Lumpur, Malaysia.
- September 18-20, 2012. **17th Annual Fresh-cut Products: Maintaining Quality & Safety Workshop**. UC Davis campus.
- October 16-19, 2012. **X International Symposium on Postharvest Quality of Ornamental Plants**. Porto de Galinhas, Pernambuco, Brazil. Contact Prof. Fernando Luiz Finger (55) 3138991128 or ffinger@ufv.br.
- December 3-5, 2012. **Postharvest Africa 2012**: The 7th Technical Symposium of CIGR Section VI and 2nd International Conference on Postharvest Technology & Innovation. Stellenbosch, South Africa.

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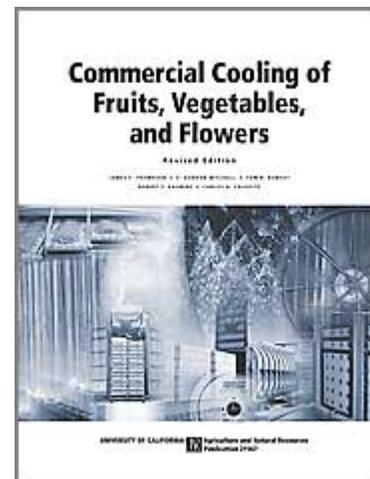
Ask the Produce Docs

Q. I am student studying at a University in Singapore. Right now I am planning to build small capacity (100 to 200 Kg) mobile vacuum precoolers for farmers in my home town back in India, they are facing wastage of vegetables (spinach, coriander and herb leaves) due to poor postharvest management of products. By using precoolers and cold chain they will be able to export products. Can you please provide us guidance, design or other information in designing single pallet size vacuum coolers. Thank you. (P.R.)

A. Unfortunately there are no publicly available references for vacuum cooler design. The technology has been developed by the companies that sell the units and they do not share their designs.

Vacuum coolers are quite expensive and I would recommend building a forced air cooler for the products you mention. It is much less expensive and would cause less moisture loss from the products. You may want to package them in perforated bags to reduce wilting in subsequent handling.

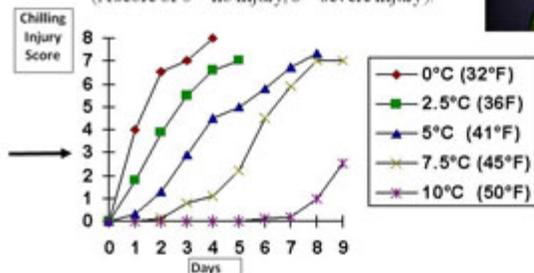
A good reference for your design work is "Commercial Cooling of Fruits, Vegetables and Flowers". You can obtain a copy of it through our Postharvest Technology Center [website](#). Click on the image above to link to a complete description of this publication.



-[Jim Thompson](#)

Chilling Injury of Basil: Temperature and Time

Development of Chilling injury on sweet basil stored at different temperatures. A score of 3 was considered the limit for marketability. (A score of 0 = no injury, 8 = severe injury).



M. Cantwell, UC Davis

Q. How long does it take to show chilling injury on basil?

A. The development of chilling injury depends on the time and the storage temperature. Here is a graph that illustrates how long it takes to see discoloration (chilling injury) on Italian sweet basil at different temperatures.

Other basil varieties may differ in their sensitivity to the storage temperatures. Packaging (packaged product inside a carton box with additional packaging materials) will also help to minimize chilling injury at lower than recommended temperatures due to trapping the heat of respiration. This effectively raises the product temperature. This tactic can be used for shipments of a mix of herbs.

-Marita Cantwell



0°C 5°C 10°C
32°F 41°F 50°F
Basil stored 2 days in plastic bags

If you have a perplexing postharvest question that you'd like answered, please send it to postharvest@ucdavis.edu.

Link to a data store of all our previous "[Ask the Produce Docs](#)" questions and answers,

or link to archived copies of our [monthly E-Newsletter](#) as PDF documents.

Link to our [Postharvest Yellow Pages](#), or email us with [additions or corrections](#).

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